



European Network for the durable exploitation of crop protection strategies

IA3 Activity: Human resource exchange

ENDURE - Internal Mobility

Final activity report

(This form has to be completed and sent to the activity leader – the message should be sent to his p.a. elisa.scanzi@ibaf.cnr.it – within 15 days of the end of the visit)

Topic of the visit

The aim of my visit to Denmark is to improve my knowledge about physical weed control strategies and machines (with particular attention to innovative tools for in-row weed control) and band steaming strategies.

1. Information about researcher and sending partner

Name and surname:

Marco Fontanelli

Professional status: *(PhD student, post-doc, junior or senior scientist)*

PhD student

Sending partner:

Scuola Superiore Sant'Anna, Pisa; University of Pisa (Italy)

Institute/Department/Research Unit:

Land Lab and CIRAA

Address: *(street, postal code, city)*

Piazza Martiri della Libertà 33, Pisa, 56127; Via del Borghetto 80, Pisa, 56124

E-mail and phone number of the researcher:

mfontanelli@agr.unipi.it; +39 0502218922

Supervisor name*:

Prof. Andrea Peruzzi

Supervisor e-mail*:

aperuzzi@agr.unipi.it

Supervisor phone number*:

+39 0502218942

*Supervisor information only for PhD student, post-doc and junior researchers

2. Information about hosting partner

Hosting partner:

University of Aarhus Faculty of Agricultural Sciences (Denmark)

Institute/Department/Research Unit:

DJF Research Centre Flakkebjerg, Department of Integrated Pest Management

Address: (*street, postal code, city*)

Forsøgsvej 1, Slagelse, DK-4200

Supervisor name*:

Senior Scientist Bo Melander

Supervisor e-mail*:

Bo.Melander@agrsci.dk

Supervisor phone number*:

+45 8999 1900

* For senior scientist indicate the name of the collaborating colleague

3. Information about the visit

Duration:

3 months

Start date:

16th May 2008

End date:

21st August 2008

4. Description of the activities and outcomes

Background and context:

Three years of experience on non-chemical weed management machinery (for integrated and organic vegetable crops) and innovative soil steaming systems.

Objective:

The aim of my visit to Denmark was to improve my knowledge about physical weed control strategies and machines (with particular attention to innovative tools for in-row weed control) and band steaming strategies.

Improve my data processing capacity and scientific knowledge for international manuscript writing.

Edit a proof of a manuscript for an international scientific paper.

Activities carried out:

-Improving my knowledge about physical weed control (instructive visits in accordance with my supervisor):

1. Visit to a danish organic (Slagelse, DK) carrot grower carrying out band-steaming treatments with an on purpose made steaming machine drawn by a GPS driven tractor;
2. Danish organic tour. Physical weed control machines for vegetable crops.
3. Visit to the DJF Department of Agricultural Engineering (Horsens, DK) for open-field trials on "hortibot" (hi-tech innovative machine for row-detection);
4. Visit life Faculty (Copenhagen, DK) for open-field trials on flame weeding;
5. Visit life Faculty (Copenhagen, DK) for open-field trials on autonomous tractor developed for crop protection interventions.
6. Visit SLU Faculty (Alnarp, Sweden). Hot water and physical weed control machines.

-Improving my scientific knowledge:

1. ANOVA and dose-response analysis for soil steaming weeding effect evaluation;
2. Scientific manuscript review on soil steaming;
3. Experimental open-field work at DJF Flakkebjerg Centre (wheat, potato and fava bean harvest);

4. Digital image analysis for weed canopy percentage evaluation.

5. Links between visit activity and ENDURE

My visit was related to the following ENDURE activities:

- RA1 optimizing and reducing pesticide use based on existing approaches;
 - RA1.1 Identification, configuration and evaluation of promising approaches;
- RA2 designing innovative crop protection strategies;
 - RA2.2 Exploitation of innovative technologies for implementing crop protection strategies.

6. Impact

Added value for the researcher:

Added knowledge about machines for physical weed control, data analysis, image analysis, data presentation and plotting for scientific papers.

Added value for sending partner and hosting partner:

Sending partner added value consists on the researcher knowledge acquisition and the possibility of submitting a new scientific paper.

Hosting partner added value consists on the possibility to improve its knowledge about the Italian research on physical weed control and soil steaming.

Date of submission

04/09/2008



Dr. Maurizio Sattin
IA3 activity leader

Approved